R E P O R T R E S U M E S

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FACTORS ASSOCIATED WITH DIFFERING DEGREES OF STUDENT MOBILITY. STUDENT MOBILITY IN SELECTED MINNEAPOLIS PUBLIC SCHOOLS, REPORT NO. 2.

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PUB DATE APR 66

EDRS PRICE MF-$0.25 HC-$2.36 57P.

DESCRIPTORS- *INDIVIDUAL DIFFERENCES, *LOW INCOME GROUPS, *ELEMENTARY SCHOOL STUDENTS, *CULTURALLY ADVANTAGED, *STUDENT MOBILITY, INNER CITY, GRADE 6, FAMILY CHARACTERISTICS, RACIAL DIFFERENCES, ACADEMIC ACHIEVEMENT, DELINQUENCY, BIBLIOGRAPHIES, TABLES (DATA), MAPS, ATTENDANCE, MINNEAPOLIS, MINNESOTA, YOUTH DEVELOPMENT PROJECT

IN A STUDY OF FACTORS RELATED TO HIGH AND LOW GEOGRAPHIC MOBILITY, SIXTH-GRADE CHILDREN FROM LOW-INCOME FAMILIES IN DOWNTOWN MINNEAPOLIS WERE COMPARED WITH CHILDREN FROM FAMILIES OF ABOVE AVERAGE INCOME LIVING IN OUTLYING AREAS. LARGE DIFFERENCES WERE FOUND BETWEEN THESE GROUPS IN--FAMILY INCOME, NUMBER OF CHILDREN AND PARENTS PER FAMILY, RACE, SCHOOL ACHIEVEMENT, TEACHER RATINGS, ABSENTEEISM, AND DELINQUENCY RATES. WHEN HIGH MOBILITY STUDENTS (INNER-CITY AND COMPARISON) WERE COMPARED WITH LOW MOBILITY STUDENTS (INNER-CITY AND COMPARISON), SIMILAR DIFFERENCES WERE FOUND. THE LOW MOBILITY STUDENTS COMPARED FAVORABLY ON ALL FACTORS. HOWEVER, DIFFERENCES BETWEEN HIGH AND LOW MOBILITY STUDENTS WERE LESS MARKED IN THE COMPARISON SAMPLE, SUGGESTING THAT EXTENSIVE MOBILITY HAS LESS EFFECT ON CHILDREN OF FAMILIES WITH ABOVE AVERAGE INCOME THAN IT DOES ON THE POOR. (AF)

05196

Student Mobility in Selected Minneapolis Public Schools

ED019344

REPORT NO. 2

A YOUTH DEVELOPMENT PROJECT

RESEARCH REPORT

APRIL 1966

Community **HEALTH AND WELFARE** *Council*

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This report was published by the Youth Development Project of the Community Health and Welfare Council of Hennepin County, Inc. (Minneapolis, Minn.). Although the Youth Development Demonstration Project officially ended on December 31, 1965, sufficient funds remained from the grant, made by the Office of Juvenile Delinquency and Youth Development, Welfare Administration, U.S. Department of Health, Education, and Welfare, to allow the preparation of a series of evaluation reports on the various programs of the Youth Development Project. Most of the staff members listed above are now working for the Council in its role as the Community Action Agency in the war against poverty in Hennepin County. The Research Unit staff will join the rest of the staff in May, 1966.

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STUDENT MOBILITY

IN

SELECTED MINNEAPOLIS PUBLIC SCHOOLS

REPORT NO. 2

Factors Associated with Differing Degrees of Student Mobility

UD 005 176

by

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Minneapolis, Minnesota
April, 1966

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ACKNOWLEDGEMENTS

Basic data for this study were obtained from Minneapolis Public School Records. We wish to thank Mr. Chester A. Sorensen, Director of Research, Census and Attendance, the administrators, and the records clerks of the schools involved in this study for their assistance. Mr. Donald Bevis, now Director of Special Federal Projects - Minneapolis Public Schools, played an important role in initiating this study during his term as School Services Coordinator for the Youth Development Project.

Large savings in time and money were made possible by the use of electronic data processing machines. Cards were punched by the North Central Home Office of the Prudential Insurance Company. Machine runs were made at the Numerical Analysis Center of the University of Minnesota. These services were provided without cost as a contribution to the Youth Development Project.

Certain sections of this report contain information on juvenile delinquency. This information was made available by Captain Ray Williamson, then of the Juvenile Division of the Minneapolis Police Department, Mr. Paul Keve, Director, Department of Court Services, Hennepin County, and Judge Lindsay Arthur of the Juvenile Court, Hennepin County.

I. BACKGROUND

This report is the second of three reports on the topic of student mobility among elementary school children in selected Minneapolis Public Schools. The study was conducted by the Youth Development Project of the Community Health and Welfare Council of Hennepin County in cooperation with the Minneapolis Public School System.

The Youth Development Project (YDP) was a three year delinquency prevention planning and demonstration project (1962-1965). It operated under local funds and a grant made to the Community Health and Welfare Council by the Office of Juvenile Delinquency and Youth Development, Welfare Administration, U.S. Department of Health, Education and Welfare. A major goal of the YDP was to develop a comprehensive network of programs and services for children within two disadvantaged areas of Minneapolis. This network of programs was to bridge the gap from childhood to productive adulthood. By doing so it was believed that delinquent behavior could be reduced. Unfortunately, only a limited one year demonstration was carried out due to insufficient funding.

The study of student mobility was undertaken for two major reasons. First, the YDP needed information on the amount and direction of movement of the children living in the two disadvantaged areas (Target Areas) it was studying. This information was necessary in order to develop adequate programs. For example, programs aimed at a highly mobile population might be quite different from those developed for a stable population. Similarly, community wide programs would vary according to whether the children moved about within the community or moved to other communities.

Second, the movement patterns of the children from the individual schools were of vital interest to the administrators of these schools. Some principals reported children re-entering their schools on three or more occasions within a short time period. Children who had attended many schools might differ in significant ways from children who had spent their entire elementary school careers in a single school.

The long range goal of the study of student mobility was to find the answers to three questions:

1. Do children from schools in the high delinquency (Target) areas of Minneapolis change schools more frequently than children from schools in low delinquency (Comparison) areas of the city?

2. What are some of the educational and social factors associated with high and low student mobility?

3. What are the patterns of movement of students living in the Target Areas?

Information relating to the first of these questions was presented in Report No. 1 (Faunce, Bevis & Murton, October, 1965). It was shown quite conclusively that the mobility of children from the high delinquency areas of Minneapolis was much greater -- about twice as high -- than the mobility of children from the low delinquency areas.

The present report focuses on the second question: "What are some of the educational and social factors associated with high and low student mobility?"

II. THE SAMPLE

Selection of the Schools Sample

Seventeen of the 76 elementary schools in the Minneapolis Public School System were selected for study.[1]

Six of these schools were located in the two Youth Development Project Target Areas. Target Areas were located just north and south of the city center (See Map). These areas were selected because they evidenced a wide range of social problems.

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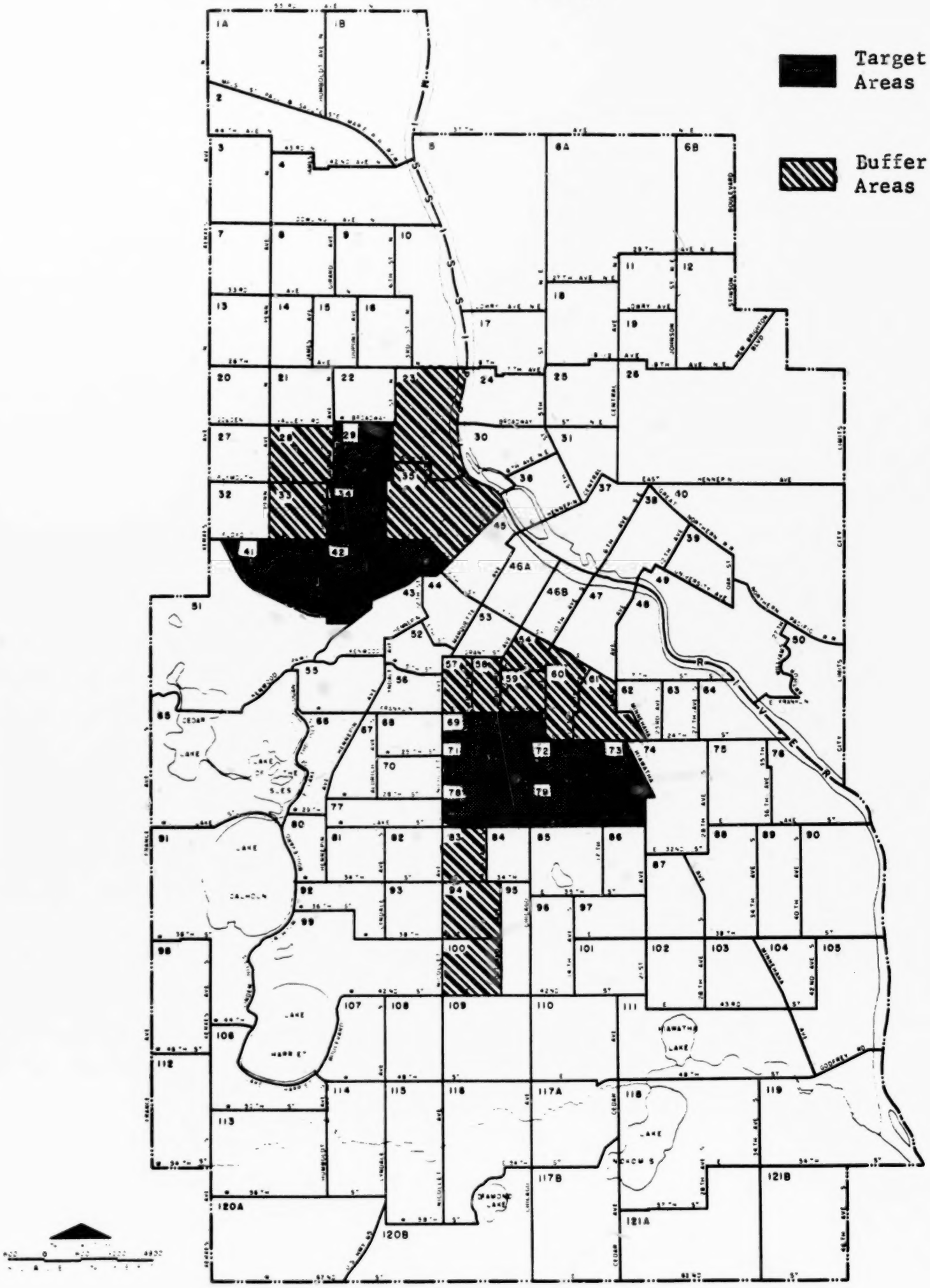
1 Three of the 76 Minneapolis elementary schools have been closed since the study began, leaving the city with 73 elementary schools.

Map



Youth Development Project Target and Buffer Areas

Within the Target Areas, about one-third of all residential buildings were rated as dilapidated or deteriorated. Less than one-tenth of the city's population lived in the Target Areas, but more than one-fifth of all the families receiving Aid to Families with Dependent Children (AFDC) support and one-third of those on public relief lived there. One out of every twelve families received AFDC support. One out of four families had an annual income of $3,000 or less. Unemployment and school dropout rates were approximately twice the city average. The average educational level had decreased since 1950 -- while the city level had risen. Forty-four percent of the Target Area adults had an eighth grade education or less compared to thirty-four percent of all Minneapolis adults. (A detailed description of Target Areas has been prepared by the YDP (Community Health and Welfare Council, 1964).)

Six schools were located in the YDP Buffer Areas. Buffer Areas were located adjacent to Target Areas. (See Map.) The extent of social pathology in these areas was similar to that in the Target Areas. Almost one out of four families had an annual income of $3,000 or less. More than one-fifth of the families in the city receiving AFDC lived there. Although the YDP did not plan programs for Buffer Areas, these areas were studied in the event freeway construction or other circumstances necessitated a change in Target Area boundaries. Buffer School information was not discussed in Report No. 1, but is included in this report.

Five schools were selected from various sections of the city for comparative purposes. They were designated "Comparison Schools." The sole criterion for selecting them was a low delinquency rate in the area encompassing each of these schools. These areas did differ from Target and Buffer Areas in many other ways, however. Average family income was greater than $7,000. Less than one family in twelve had an annual income under $3,000. Within the census tracts approximating the Comparison School Areas approximately one family in one hundred received AFDC.

Selection of the Student Sample

Initial information was gathered on all students in the sampled schools who completed sixth grade in June 1962 (Faunce et al., 1965).[1] This grade was selected during the YDP Planning Period because these students would be in the prime delinquency ages during the demonstration or action phase of the Youth Development Project.

This study yields a conservative estimate of student mobility for two reasons. Records on students who left the Minneapolis School System prior to sixth grade completion were not available. In addition, information on school or address changes of students prior to their entry into the Minneapolis School System was not available. Twenty-two percent of the students in this study did not start school in Minneapolis at the kindergarten level. The total number of moves made by these students was unknown.

Delinquency in Target, Buffer, and Comparison Areas

The delinquency rate in the Target Areas was almost twice as high as the city average and more than three times higher than in the Comparison Areas.[2] The rate for Buffer Areas was almost three times that of Comparison Areas. Police contacts for the year 1964 were used as an indicator of "delinquency" (Faunce & Murton, 1965). The percentage of police contacts (age 10-17) were as follows:

Target Areas	Buffer Areas	Comparison Areas	City of Minneapolis
10.4%	9.2%	3.3%	5.7%

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1 See Report No. 1, for a discussion of the data gathering procedures and their reliability.

2 Delinquency rates were available for each census tract in Minneapolis, but not by school districts. In order to get some estimate of delinquency by school district, census tracts were assigned to school districts by inspection. This introduced some error but in most cases it appeared negligible due to the fact that adjacent school districts and census tracts generally had similar rates. The "fit" of school districts and census tracts appeared quite good.

It seems obvious that in 1964, when most of the children in this study were in eighth grade, there were large differences in recorded delinquency among Target, Buffer, and Comparison Areas.

This difference is not a transient one. Court records averaged over a three year period, 1954-1955-1956, showed similar results. The same was true for court records in 1962.[1] We can conclude that from the time the children in this study entered kindergarten until the time they completed eighth grade there were large differences in delinquency rates between the Target, Buffer and Comparison Area children. Target Areas consistently had delinquency rates about twice as high as the city average. Buffer Areas had rates considerably above the city average, but somewhat lower than the rates for the Target Areas. Comparison Areas consistently had delinquency rates about one-half the city average.

It is important to note that these delinquency rates refer to all youth residing in the sampled areas but not necessarily to the sample of children selected for this study. See Sections III and VI for delinquency data pertinent to this sample.

This report discusses "delinquency" as though it were a clearly defined term. Obviously this is not true. "True" delinquency rates for the various areas of the city can not be determined with any high degree of accuracy. Parental support, or lack of it; police dispersion; sex, racial, or economic bias; and a host of other factors distort the picture. As used in this report, the term delinquency is used to denote "official delinquency" only. Official delinquency means that the youth has been contacted by the police, has gone through juvenile court intake proceedings, or both. It carries no other connotation. A fuller discussion of the operational definitions of juvenile delinquency used by the YDP is given in the Youth Development Demonstration Proposal, (Community Health and Welfare Council, 1964, p. 207-213). Gold (1965) has recently demonstrated the fallacy of using official delinquency statistics as the sole criterion of true delinquency among various populations.

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1 Court record statistics were compiled by the YDP based on information supplied by the Hennepin County Department of Court Services.

III. REVIEW OF INFORMATION CONTAINED IN REPORT NO. 1.

This section summarizes information contained in Report No. 1, Student Mobility in Selected Minneapolis Public Schools (Faunce et al., 1965). Information on Buffer School children is included here for the first time.

Report No. 1 described the samples of school children in terms of their family backgrounds, education, delinquency and mobility. The table below summarizes some of these background characteristics.

	Target School Children	Buffer School Children	Comparison School Children
Number	373	382	425
Percent Male	48.8%	45.0%	49.5%
Average Age	11 yrs.8mos.	11 yrs.8mos.	11 yrs.7mos.
Percent Non-white	24.9%	23.0%	0.5%
No. of Children in the Family	4.41	4.04	3.25
Living with Both Parents	67%	70%	90%
Otis Test of Mental Ability (Mean)	98.1	102.6	108.1
Iowa Test of Basic Skills, Reading Comprehension - Grade Equivalent (Mean)	5.73	6.11	6.78

This information clearly shows the large differences between the Comparison School sample on the one hand and the Target-Buffer samples on the other. These differences were also apparent when delinquency records were analyzed. By the spring of 1963, as students were completing seventh grade, about one in six Target or Buffer students had had some contact with the police or courts, while only one of thirty-six Comparison students had such contacts. The percentage of students contacted was 16.9% for the Target Sample.

16.2% for the Buffer sample, and 2.8% for the Comparison sample.

Information on student mobility also showed wide differences among the samples. Target and Buffer School children were more likely to have been born outside of Minneapolis and to have entered the Minneapolis Schools at a later grade than Comparison students. Seventy-nine percent of Target, 71% of Buffer, and 84% of Comparison students entered the Minneapolis Public Schools in kindergarten. Of those entering in kindergarten, many more Comparison students (six of ten) than Buffer (three of ten) or Target (three of ten) students remained in the same school throughout the elementary grades. On the average, a Target School youngster remained in the same school 45 consecutive months (out of 70 possible) and a Buffer student remained 47 months, while the typical Comparison School youth remained 58 consecutive months in the same school setting.

Target students had changed schools and addresses most often; about half again as often as Buffer students and twice as often as Comparison students.

In sum, this study clearly documented that youngsters from low income, high delinquency areas of the City of Minneapolis in addition to suffering from the handicaps usually associated with poverty such as large families and broken homes, were also beset by the added handicap of inconsistent school attendance. This inconsistent attendance showed up in excessive absenteeism and in frequent moves from school to school and from home to home.

Summary Statistics from Report No. 1

	Target School Children	Buffer School Children	Comparison School Children
Born outside Minneapolis	36%	36%	21%
Entered Minneapolis Public Schools in Kindergarten	79%	71%	85%
Consecutive school Months Attended	45	47	58
Mean No.of School Changes	3.08	2.52	1.60
Mean No.of Address Changes	3.29	2.81	1.66
Absent 21 or More Days in Sixth Grade	20%	21%	6%

IV. SELECTED REFERENCES ON STUDENT MOBILITY

It is generally accepted that ours is a highly mobile population. People move as the labor market changes, as they obtain education, as they marry, enlarge their families, and as they retire and switch to smaller quarters. Many of these moves involve leaps from state to state or from one part of the country to another. However, long distance moving accounts for a relatively small portion of the moves that are made each year. According to 1960 Census information, about 7 out of 10 moves are local moves within the same city or county. Only one move in eight was found to be across state lines.

Mobility and Income

A Census report of national population characteristics (1965) showed that men with lowest incomes were more likely to have moved than those with average or above incomes. At all age levels studied, a greater percentage of men with 1962 incomes under $3,000 had moved during that year than had men with higher incomes. There appeared to be only slight differences in the percentages of those moving for income groups over $5,000.

An analysis of the New Haven Census figures on mobility (Residential change and school adjustment, 1966) revealed differences in mobility figures for income groups. In the five year period preceding the 1960 Census it was found that over half of those persons in the under $3,000 a year income bracket had moved. Fewer than one-third of those persons earning more than $15,000 a year had moved.

Sexton (1959) also found a relationship between income categories and the transaction or movement rate of children in a number of school areas in a large mid-western city. Transaction rate was determined by the number of new students, transfers, returns, and losses during a school semester. For school areas with incomes under $5,000 the transaction rate was 49%; for school areas with incomes over $7,000 the transaction rate was less than half this figure (21%).

Frequently it has been found that in inner city or economically deprived areas student mobility is higher than in the suburban or higher income areas. In a predominantly working class area of Boston the average sixth grader had attended school in 2.3 different Boston school districts. This figure did not take into account a great number of changes in street address, as well as schools, within each district (Aronoff, Raymond & Warmoth, 1965). Bollenbacher (1962) found that in the inner-city section of Cincinnati, sixth-grade students had attended an average of 2.3 schools, while suburban pupils had attended an average of only 1.8 schools. She also found that almost one-third of the total sixth grade sample of over 5,500 children had been enrolled in three or more Cincinnati schools during their elementary school career. A study of a very old neighborhood near the downtown business district of New Haven indicated that two out of three elementary school children had moved at least once by the time they reached second grade. Only one of four children currently in the sixth grade had begun in the same school (Levine, Wesolowski & Corbett, 1964). The vast majority of moves had both originated and ended in the city of New Haven. Four out of five children who had attended at least one previous school by sixth grade came from the city.

Mobility and Race

Census data for the 1955-1960 period showed more moves among non-white than among white persons. In New Haven nearly half of the non-whites had moved, whereas only three in ten of the white population had moved. An association was also found to exist between race and the distance of the move. Of those who moved, about two-thirds of the white population had moved within the city, while 95% of the non-whites had moved within the city limits (Residential change and school adjustment, 1966).

The association between race and degree of mobility has been noted in other sources. In the U. S. "one out of every four Negroes (about 5 million) changed place of residence between March 1963 and March 1964 as compared with the ratio of one out of five for whites" (Recent data on Negro and white population in the United States, 1965). Although there is a nation-wide relationship in which the non-white population moves more frequently, it may not be inferred that this is the case in all communities. Sullenger (1950) found in a study of certain

census tracts in Omaha that the rate of mobility among Negroes was lower than the rate among whites.

Effects of High Mobility

The effects of frequent movement on the progress of school children is of great concern to educators. Many investigators have used standardized test grades, citizenship ratings, and other teacher evaluations to investigate the differences between children who have moved frequently and those who have remained in the same school setting.

In the New Haven study "In both upper and lower grades of the elementary school the number of moves is associated with an under representation of good grades and an over representation of poor grades. The relationship is stronger at the upper grade levels where the work is more difficult and the effect of moves probably accumulates. The citizenship ratings generally reflect children's work habits and obedience in the classrooms." Children who moved more frequently tended to be under represented among students receiving the highest ratings in citizenship. This was true at both upper and lower elementary grades. However, the amount of movement was apparently not related to the poorest citizenship ratings. Equal proportions of movers and non-movers were found in this group (Levine et al., 1964).

Pupil achievement, as indicated by standardized tests, has also shown students who move to a disadvantage. Intelligence test scores for sixth graders in a number of mobile, working class area, Boston schools had somewhat lower averages than normal (Aronoff et al., 1965). Approximately three-fourths of the students scored I.Q.'s of 105 or lower on the Kulhmann-Anderson Test. These same students scored somewhat below average on reading tests and on arithmetic achievement tests. The modal sixth-grade student scored one to two grades behind on the reading test. On the arithmetic achievement tests sixth graders were found to be two grades behind their actual grade placement. Parochial school children, however, in this study were found to score moderately above their expected average level of intelligence and achievement. Similar results were found among sixth graders from downtown Cincinnati (Bollenbacher, 1962).

On the Lorge-Thorndike Verbal Test the average central city student scored approximately 10 points below the average I.Q. of 100. Three-fourths of these downtown students scored 100 or less on the test. In comparison, suburban children had a median score of 10 points above the normal I.Q. of 100, and three-fourths of the students scored 100 or more on this instrument. When these same students were compared as to the number of elementary schools they had attended, it was found that those who had attended three or more Cincinnati public schools scored 12 I.Q. points below those students who had attended only one such school. Reading and arithmetic test scores showed similar results. An analysis of the data by covariance techniques was used to determine whether the difference in reading achievement was related to movement from school to school or to the differences in ability of the groups. Reading achievement appeared not to be affected by the number of schools attended. A similar finding was noted for the Stanford Arithmetic Test. It was concluded that pupils who moved most often were consistently the least capable as measured by the intelligence test, and therefore, also did less well on the reading and arithmetic instruments. No causal relationships were discussed.

It has been found that some teachers regard mobile children as less well adjusted than non-mobile children. Kantor (1965) suggests that this could be because some moves are prompted by the child's inability to get along in one neighborhood or school setting. Bevis and Faunce (1964) hint that the teacher in a school where there are few students moving (middle and upper income areas, primarily) may react positively to the mobile child while the teacher in a school where a great number of the children move (usually low income areas) may be displeased with such students because of the continually changing composition of the classroom. This frequent change in classroom composition might also result in a higher teacher turnover since the teacher has little opportunity to observe progress in the students and thus receives little psychic reward for her efforts (Rader, 1962).

Green and Daughtry (1961-2), in a study of high school juniors in Savannah, Georgia, found that students with high "recency of mobility" scores or relatively high "distance of mobility" scores had favorable social adjustment and did as well as other students in many academic subjects. Most literature

indicates a multitude of problems for the mobile child, but the recency and the distance of the moves are unspecified. It appears likely that most students who move frequently have very low "distance of mobility" scores.

Effects of moving on students and their families are assumed by many to have a direct bearing on children's social, emotional, and educational progress. The Association for Childhood Education International has addressed itself to the topic of some of the problems children face when they move from school to school. Suggestions have been made of ways to help children understand the necessity for moves and prepare them for the new school situation which they will meet. Along this line many difficulties are experienced by the children of migrant workers who must move many times each year. Suggestions are offered for integrating the child into the new schoolroom by various techniques (Childhood Study Association of America & Allied Van Lines, 1960; Fleming, 1964; Goldstein & Graubard, 1958; Lane, 1960). Stubblefield (1955) has also indicated the possibility of aggravating children's emotional problems by family movement, the effect of which may be anxiety producing isolation. Most sources suggest that children be given ample warning that the family is about to move, sufficient explanations so that they can understand the reason for the move, and support by parents when learning to live in a new community.

Pederson and Sullivan (Levine et al., 1964) found that in some situations children who move do not seem to suffer ill effects, and suggest that moving in itself is not necessarily the most important factor in understanding the problems of mobile children. The children they studied were progeny of members of the armed services. When parents accepted moves as a part of military life, no high incidence of psychological problems were noted in the children.

In summary, there is no strong evidence that moving, per se, has a <u>necessarily</u> unfavorable effect on children. There is evidence to suggest that the reasons precipitating the moves are more important than the actual move. The study by Green and Daughtry (1961-62) suggests that more refined definitions of the global term "mobility" must be used if research efforts on this topic are to bear fruit.

V. EDUCATIONAL AND SOCIAL FACTORS ASSOCIATED WITH HIGH AND LOW MOBILITY:

Definition of "High" and "Low" Mobility Students

Students were divided into three groups for purposes of analyzing the relationship of mobility and certain educational and social factors. Those students who had attended the same school from kindergarten through sixth grade were designated "Low Mobility" students. Students who had attended three or more schools were designated "High Mobility" students. Students who had attended two schools were excluded from this analysis.

The Low Mobility sample consisted of one-fourth of the Target students, one-third of the Buffer students, and more than three-fifths of the Comparison students.

More than one-half of the Target Schools sample was High Mobility students. In Buffer Schools approximately one-third of the children were High Mobility students and roughly one-eighth of the Comparison students were in this category. See Table 1.

Overall, the total Low Mobility sample was about evenly divided with roughly half (53%) of the sample coming from low delinquency, high income Comparison Schools and the other half coming from the high delinquency, low income Target and Buffer Schools. See Table 2.

The High Mobility sample was heavily weighted by Target and Buffer School children. Only 15% of this sample was Comparison students.

Table 1

Distribution of Target, Buffer, and Comparison Students Into Mobility Samples

Number of Schools Attended K - 6	Target Students		Buffer Students		Comparison Students		Total	
	No.	%	No.	%	No.	%	No.	%
Low Mobility (one school)	99	26.5	128	33.5	258	60.7	485	41.1
Two Schools	80	21.4	114	29.8	110	25.9	304	25.8
High Mobility (three or more schools)	194	52.0	140	36.6	57	13.4	391	33.1
Total	373	99.9%	382	99.9%	425	100.0%	1180	100.0%
Mean No. of Schools Attended	3.06		2.52		1.60		2.36	
Standard Deviation (S.D.)	2.03		1.83		1.00		1.59	

Table 2

Composition of High and Low Mobility Samples*

	High Mobility		Low Mobility		Total	
	No.	%	No.	%	No.	%
Target Students	194	49.6	99	20.4	293	33.4
Buffer Students	140	35.8	128	26.4	268	30.6
Comparison Students	57	14.6	258	53.2	315	36.0
Total	391	100.0%	485	100.0%	876	100.0%

* High Mobility - 3 or more schools attended from kindergarten through 6th grade.

Low Mobility - Attended only one school from kindergarten through 6th grade.

Data Analysis

Comparisons were made between the total High and Low Mobility samples. However, because of the disporportionate weighting of these samples individual comparisons of High and Low Mobility samples were also made within each of the Target, Buffer, and Comparison groups. This procedure helped eliminate many of the variables uniquely related to the individual groups. For example, there is no evidence to suggest that the economic status of High Mobility students in the Target Schools differed from the economic status of Low Mobility students also in the Target Schools. It could be argued, however, that Low Mobility students in the total sample came from higher income families since a disproportionate share of the Low Mobility sample came from the higher income Comparison Schools.

Tests for equality of variance were performed between High and Low Mobility samples as a prelude to tests of mean differences. Two tailed F and t tests were used throughout. Probabilities of .10 or less are indicated. Probabilities greater than .10 are shown as n.s. or not significant.

Numbers entered in the tables do not consistently agree with the base numbers shown in Table 2. Information was not available for each child for all characteristics studied. This was particularly true for information related to race, mental ability, and reading test scores (Tables 5, 6, and 7). Missing data do not appear to be a significant factor for other variables, but for these three variables the possibility of an unknown, consistent bias can not be excluded.

Family Size and Mobility

Across School Samples

Family size, as indicated by the number of children in the family, was larger for Target and Buffer samples than for the Comparison sample.[1] Target and

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[1] Number of children in the family is not an accurate picture of family size. In Target and Buffer areas many families had only one parent in the home (20-33% of the children in the sample were not living with both natural parents), whereas Comparison families were more likely to have had two adults (only 10% of the children were not living with both natural parents). Thus, in some cases the Target or Buffer family might consist of five persons --one parent and four children, while a Comparison family also would have five persons -- two parents and three children.

Buffer families had over four children, on the average, compared to an average of 3.14 children for Comparison families.

These differences persisted for High and Low Mobility groups when school samples were compared. Target and Buffer High Mobility families had more children than Comparison High Mobility families. Target and Buffer Low Mobility families had more children than Comparison Low Mobility families. In fact, the average number of children in the Target and Buffer Low Mobility sample (4.04 and 3.57 respectively) was larger than the average number of children in the Comparison High Mobility sample (3.29). Details are shown in Table 3.

Within School Samples

Overall, family size was much greater for High Mobility families (4.37 children) than it was for Low Mobility families (3.41 children). This relationship also held within each of the school samples. High Mobility Target families were larger than Low Mobility Target families (4.56 to 4.04); High Mobility Buffer families were larger than Low Mobility Buffer families (4.55 to 3.57); and High Mobility Comparison families were larger than Low Mobility Comparison families (3.29 to 3.11). The difference in family size between the Comparison High and Low Mobility samples was not statistically significant, however.

Family Status and Mobility

Family status was defined as "normal" or "other." A "normal" family was one in which the child lived with both natural or biological parents. "Other" family situations included all those not defined as "normal," e.g. stepfather or stepmother in the home, living with mother or father only, living with other relatives, living in foster home, etc.

Table 3

Number of Children in the Family

	No. of Students	Children in the Family (includes child studied)	
		Mean	S.D.
Target Students			
High Mobility	187	4.56	2.13
Low Mobility	90	4.04	1.73
Total	277	4.39	2.01
Buffer Students			
High Mobility	138	4.55	2.08
Low Mobility	124	3.57	1.77
Total	262	4.09	1.94
Comparison Students			
High Mobility	56	3.29	1.40
Low Mobility	259	3.11	1.24
Total	315	3.14	1.27
Total			
High Mobility	381	4.37	2.03
Low Mobility	473	3.41	1.50
Total	854	3.80	1.76

Comparisons between Numbers of Children in Families

High vs Low Mobility Students	F	p	t	p
Target	1.52	.05	2.17	.05
Buffer	1.38	.10	4.08	.001
Comparison	1.27	n.s.	.97	n.s.
Total	1.83	.001	7.68	.001

Note: F tests refer to tests of variance equality. The t tests refer to tests of mean differences. Two tailed tests are used throughout this report. Probabilities greater than .10 are not reported.

Across School Samples

Large differences were apparent in the family status of Target, Buffer, and Comparison children. Approximately three out of ten Target and Buffer children were not living with both their natural parents. One in eleven Comparison children were not. See Table 4.

The relationship of family status of High and Low Mobility groups across schools was not direct. Low Mobility students in Target and Buffer schools had a better chance of living in "normal" homes than had High Mobility students from the higher income Comparison schools. In fact, family status of Low Mobility students living in the Target and Buffer areas approximated that of all students living in Comparison areas (88%, 84% and 91% living in "normal" families for the three groups, respectively).

Within School Samples

The difference in family status of High and Low Mobility children was extremely large. Nine out of ten Low Mobility children were living with their natural parents whereas only six out of ten High Mobility children were living with their natural parents (Chi square = 97.7; p = .001).

Within each school sample there was a smaller percentage of children from the High Mobility group living in normal families. Fifty-seven percent of the Target children, 58% of the Buffer children and 79% of the Comparison children in High Mobility samples lived with both parents. In contrast, 88% of the Target children, 84% of the Buffer children, and 94% of the Comparison children in the Low Mobility groups lived with both natural parents. Differences in family status between High and Low Mobility groups were statistically significant for all three school samples (.001 level).

Table 4

Family Status and Mobility

	Family Status					
	Normal		Other Than Normal		Total	
	No.	%	No.	%	No.	%
Target Students						
High Mobility	108	57.1%	81	42.9%	189	100.0%
Low Mobility	79	87.8	11	12.2	90	100.0
Total	187	67.0	92	33.0	279	100.0
Buffer Students						
High Mobility	80	58.4	57	41.6	137	100.0
Low Mobility	104	83.9	20	16.1	124	100.0
Total	184	70.5	77	29.5	261	100.0
Comparison Students						
High Mobility	44	78.6	12	21.4	56	100.0
Low Mobility	224	94.1	14	5.9	238	100.0
Total	268	91.2	26	8.8	294	100.0
Total						
High Mobility	232	60.7	150	39.3	382	100.0
Low Mobility	407	90.0	45	10.0	452	100.0
Total	639	76.6%	195	23.4%	834	100.0%

Comparisons between Family Status Categories

High vs Low Mobility Students	Chi-Square	p
Target	24.52	.001
Buffer	19.11	.001
Comparison	11.25	.001
Total	97.66	.001

High Mobility Students	Chi-Square	p
Target vs Buffer	.01	n.s.
Target vs Comparison	7.54	.01
Buffer vs Comparison	6.19	.05
Low Mobility Students		
Target vs Buffer	.37	n.s.
Target vs Comparison	2.88	.10
Buffer vs Comparison	8.89	.01

Race and Mobility

Across School Samples

An analysis of mobility for white and non-white students could not be made across the three school samples as there were no non-white students in the Comparison school sample. Approximately one-four of Target and Buffer students were non-white (27.9% of Target and 28.6% of Buffer children). See Table 5.

Within School Samples

Non-white students were disproportionately represented in the High Mobility sample. Overall, 34.9% of the High Mobility sample was non-white compared to 18.6% of the Low Mobility sample. Seventy-three percent of all non-white students from Target and Buffer schools were in the High Mobility sample compared to 54% of the white students from the Target and Buffer schools. The Target and Buffer Low Mobility sample was composed of 27% of the non-white students and 46% of the white students from these school samples.

In the Target sample, two-thirds of the High Mobility students were white, while one-third was non-white. In the Low Mobility Target sample nearly five-sixths were white, and about one-sixth were non-white. Thus, white Target students were more likely to have attended only one elementary school and non-white Target students were more likely to have attended three or more schools.

Results were similar for the Buffer School students. In the High Mobility sample, five in eight were white, while three in eight were non-white. For Low Mobility Buffer children, five in six were white, and one in six was non-white.

Table 5

Race and Mobility

	White		Non-White		Total	
	No.	%	No.	%	No.	%
Target Students						
High Mobility	114	67.5%	55	32.5%	169	100.0%
Low Mobility	67	81.7	15	18.3	82	100.0
Total	181	72.1	70	27.9	251	
Buffer Students						
High Mobility	71	61.7	44	38.3	115	100.0
Low Mobility	91	81.3	21	18.7	112	100.0
Total	162	71.4	65	28.6	227	
Total						
High Mobility	185	65.1	99	34.9	284	100.0
Low Mobility	158	81.4	36	18.6	194	100.0
Total	343	71.8%	135	28.2%	478	100.0%
Comparison Students						
High Mobility	49	100.0	0	-	49	100.0
Low Mobility	247	100.0	0	-	247	100.0
Total	296	100.0%	0	-	296	100.0%

Comparisons between Race and Mobility

	Chi Square	p
High vs. Low Mobility Students		
Target	4.89	.05
Buffer	9.64	.01
Total	14.32	.001
High Mobility Students		
Target vs. Buffer	.74	n.s.
Low Mobility Students		
Target vs. Buffer	.01	n.s.

Summary: Family Characteristics and Mobility

To summarize the findings thus far, it appears that for this sample the following is true:

1. Number of children in the family bears some sort of inverse relationship to economic level. Poorer families have more children.

2. Larger families living in low income areas tend to move more frequently than smaller families living in these same areas.

3. Possibly - larger families living in higher than average income areas also move more frequently than smaller families living in these areas.

4. There were large differences in family status for Target and Buffer children on the one hand, and Comparison children on the other. Three out of ten Target-Buffer children did not live in "normal" families. One Comparison child in ten did not.

5. Family status was related to mobility regardless of economic level. In each of the economic areas studied the children from highly mobile families were less likely to be living with both natural parents.

6. Low Mobility children, living in poorer sections of the city, were more likely to come from "normal" families than were children from High Mobility families living in wealthier sections of the city.

7. There were no non-white children in either the mobile or the residentially stable group of the higher income Comparison sample.

8. There was a much larger proportion of non-white youth in the mobile group than in the non-mobile group in the downtown schools sampled.

9. Three-quarters of the non-white children had moved three or more times during their elementary school careers. Less than half of the white children from the inner city schools had moved this often and only 17% of the white Comparison School children had moved this frequently.

VI. EDUCATIONAL AND SOCIAL FACTORS ASSOCIATED WITH HIGH AND LOW MOBILITY (Cont'd.)

Mental Ability and Mobility

Across School Samples

Students were tested with the Otis Quick Scoring Test of Mental Ability, form Beta, during sixth grade. There were significant differences in the scores of Target, Buffer, and Comparison students revealed by analysis of variance approach. A further test (Scheffé) on these three samples indicated each differed from the others at the .001 level of probability. When High and Low Mobility samples were combined for each of the three groups of schools, Target children scored lowest and Comparison children scored highest. There was an eleven point difference between these two groups (96.9 vs. 108.1). Buffer students scored about half-way between these two groups (102.3). See Table 6.

Highly significant differences were noted among the Target, Buffer and Comparison students for both High and Low Mobility groups. High Mobility Target children, for example, scored 95.2; Buffer, 98.5; and Comparison, 105.7. Scores of the three High Mobility school groups differed ($p \leq .001$) by analysis of variance procedures. It was also found (Scheffé's Test) that the mental ability scores differed significantly between High Mobility Target and Comparison ($p \leq .001$) and between High Mobility Buffer and Comparison students ($p \leq .05$). Target and Buffer means were found not to differ significantly.

In the Low Mobility sample, Target children averaged 100.3; Buffer children's scores were higher at 106.2; and Comparison students scored highest at 108.6. Significant differences were noted ($p \leq .001$) by analysis of variance. Scheffe's Test on the means of the three Low Mobility groups indicated that significant differences occurred between the Low Mobility Target and Buffer children ($p \leq .01$) and between Low Mobility Target and Comparison children ($p \leq .001$). Low Mobility Buffer and Comparison mental ability scores did not differ significantly.

Table 6

Mental Ability Test Scores and Mobility
(Otis Test of Mental Ability)

	No. of Students	Otis Score	
		Mean	S.D.
Target Students			
High Mobility	167	95.2	12.65
Low Mobility	85	100.3	13.07
Total	252	96.9	12.79
Buffer Students			
High Mobility	117	98.5	13.98
Low Mobility	112	106.2	12.70
Total	229	102.3	13.37
Comparison Students			
High Mobility	49	105.7	10.72
Low Mobility	248	108.6	11.40
Total	297	108.1	11.30
Total			
High Mobility	333	97.9	12.88
Low Mobility	445	106.2	12.07
Total	778	102.6	12.43

Comparisons between Mental Ability Test Scores

High vs Low Mobility Students	F	p	t	p
Target	1.07	n.s.	3.00	.01
Buffer	1.21	n.s.	4.35	.001
Comparison	1.13	n.s.	1.64	.10
Total	1.14	n.s.	9.22	.001

	Anova F	p
High Mobility Students	127.30	.001
Low Mobility Students	15.35	.001
Total Target vs Buffer vs Comparison Students	54.11	.001

Some score overlapping occurred within these three school groups. Low Mobility Target children had higher mean scores than High Mobility Buffer children, and Low Mobility Buffer children scored higher than High Mobility Comparison children.

Within School Samples

Low Mobility students scored higher on the Otis than did High Mobility students. The difference in scores was substantial. Low Mobility children had a mean score of 106.2 while High Mobility children scored eight points lower, 97.9 ($p \leq .001$).

Within each of the school samples, there was a consistent difference between the average mental ability scores of the High and Low Mobility children for the three groups of schools. In each case the Low Mobility students received higher scores. Differences were most noticeable for Buffer children, where the High Mobility group scored almost eight points lower than the Low Mobility group ($p \leq .001$). Scores of High and Low Mobility Target children were approximately five points apart ($p \leq .01$). The Comparison samples showed the smallest mean difference, about three points ($p \leq .10$).

Reading and Mobility

Children were tested with the Iowa Test of Basic Skills, Reading Comprehension, section, grade 6, form 1. Their scores are presented in grade equivalent units. The "normal" student reading at the sixth grade level would have a reading test score of 6.0 upon beginning sixth grade.

Across School Samples

When both High and Low samples were combined for the three groups of schools, Target students averaged 5.71; Buffer, 6.13; and Comparison, 6.82. See Table 7. Scores for the three school groups on the reading test were found to differ significantly by analysis of variance ($p \leq .001$). Furthermore, differences were also noted by Scheffé's test between pairs of schools;

Table 7

Reading Test Scores and Mobility*

	No.	Mean	S.D.
Target Students			
High Mobility	160	5.67	1.06
Low Mobility	86	5.79	1.21
Total	246	5.71	1.11
Buffer Students			
High Mobility	119	5.91	1.21
Low Mobility	111	6.36	1.44
Total	230	6.13	1.33
Comparison Students			
High Mobility	55	6.69	1.32
Low Mobility	248	6.85	1.33
Total	303	6.82	1.33
Total			
High Mobility	334	5.92	1.16
Low Mobility	445	6.52	1.34
Total	779	6.26	1.27

* Iowa Test of Basic Skills, Reading Comprehension score, presented in grade-equivalent units.

Comparisons between Reading Test Scores

High vs. Low Mobility Students	F	p	t	p
Target	1.32	.10	.95	n.s.
Buffer	1.42	.05	2.56	.05
Comparison	1.01	n.s.	.81	n.s.
Total	1.33	.05	6.74	.001

	Anova F	p
High Mobility Students	15.98	.001
Low Mobility Students	20.85	.001
Total Target vs Buffer vs Comparison Students	53.66	.001

Target and Buffer, $p \leq .01$; Target and Comparison, $p \leq .001$; Buffer and Comparison, $p \leq 001$.

No overlapping of average scores occurred among the three school samples. Both the High and Low Mobility Target students scored below the Buffer averages. High and Low Mobility Buffer reading scores were lower than either the Comparison High or Low Mobility average scores.

Comparisons of both the High Mobility groups and the Low Mobility groups across the three school samples revealed large differences in reading scores. High Mobility Target students had the lowest reading score (5.67), and High Mobility Buffer students had a middle score (5.91), and the High Mobility Comparison students had the highest average grade equivalent score (6.69). Mean reading scores for the three High Mobility samples differed when examined by analysis of variance ($p \leq .001$). Comparisons of pairs of mean scores revealed no significant differences between High Mobility Target and Buffer children, but substantial ($p \leq .001$) differences between High Mobility Target and Comparison, and Buffer and Comparison children.

A similar relationship held for students in the Low Mobility samples. Low Mobility Target students did least well (5.79); Buffer students were again in the middle (6.36); and Comparison students earned top scores (6.85). These three means differed at the .001 level or beyond. Significant differences were also noted by Scheffé's Test between the three pairs of mean reading scores for Low Mobility children ($p \leq .05$).

Within School Samples

For all three groups of schools, the High Mobility students had lower reading grade equivalent scores than did the children who had not moved during their elementary school career. For Target and Comparison children, these differences were not large, and could possibly be attributed to chance. But for the Buffer group, it appears that there was almost a one-half year's difference in tested reading comprehension, with the High Mobility students being somewhat under the sixth grade level (5.91), and the Low Mobility children well above it (6.36) ($p \leq .05$).

Overall, the High Mobility students appeared to be reading slightly under the sixth grade level, 5.92. The Low Mobility students, however, had an average score one-half grade level above the grade six level, 6.52. This difference was highly significant (p - .001). Comparison of variances indicated that the Low Mobility group had a somewhat greater dispersion of reading test scores than did the more mobile sample.

Ratings of Teacher Comments and Mobility

Each year teachers record comments on the cumulative record cards of each child. These comments are intended to be of use to successive teachers in becoming acquainted with and teaching the children. The comments concerning the children in this study, after they completed fifth grade, were rated as to whether they presented a favorable, neutral, or unfavorable picture of the child. These were not teachers' ratings, but rather ratings of teacher comments. It is important to remember this since for ease of discussion the ratings are occasionally referred to as though they were ratings made by teachers of the children. (See Faunce, et al., Pp. 30-31, 57-59, for a complete description of this rating procedure and its reliability.)

Across School Samples

Approximately the same proportions of Target and Buffer children were rated into the three categories -- favorable, neutral, and unfavorable. A little more than one-third of the children were rated favorably. Slightly more than half were rated as neutral, and the remainder, about 10% were classified as unfavorable. Teachers' comments on Comparison children were rated quite differently from those on downtown school children. Nearly half of the Comparison children were rated favorably. Nearly half were rated as neutral, and a very small proportion, less than 4% were rated as unfavorable. See Table 8.

Among High Mobility students, Buffer children were perceived least favorably. Only one of four comments was rated favorably for this group, compared to one of three for the Target children and nearly one in two for the Comparison

Table 8

Ratings of Teacher Comments (Grade 5) and Mobility

	Ratings of Teacher Comments							
	Favorable		Neutral		Unfavorable		Total	
	No.	%	No.	%	No.	%	No.	%
Target Students								
High Mobility	60	33.3%	102	56.7%	18	10.0%	180	100.0%
Low Mobility	44	48.4	40	43.9	7	7.7	91	100.0
Total	104	38.4	142	52.4	25	9.2	271	100.0
Buffer Students								
High Mobility	29	23.2	75	60.0	21	16.8	125	100.0
Low Mobility	55	45.8	56	46.7	9	7.5	120	100.0
Total	84	34.3	131	53.5	30	12.2	245	100.0
Comparison Students								
High Mobility	23	45.1	25	49.0	3	5.9	51	100.0
Low Mobility	130	50.6	118	45.9	9	3.5	257	100.0
Total	153	49.7	143	46.4	12	3.9	308	100.0
Total								
High Mobility	112	31.5	202	56.7	42	11.8	356	100.0
Low Mobility	229	48.9	214	45.7	25	5.3	468	99.9
Total	341	41.4%	416	50.5%	67	8.1%	824	100.0%

Comparisons Between Ratings of Teacher Comments

High vs Low Mobility Students	Chi-Square	p
Target	12.23	.01
Buffer	28.29	.001
Comparison	2.25	n.s.
Total	57.50	.001

High Mobility Students	Chi-Square	p
Target vs Buffer	5.42	.10
Target vs Comparison	2.72	n.s.
Buffer vs Comparison	9.81	.01
Low Mobility Students		
Target vs Buffer	1.07	n.s.
Target vs Comparison	2.65	n.s.
Buffer vs Comparison	3.19	n.s.

children. More High Mobility Buffer children were included in the unfavorable category (one in six) than were the Target (one in ten) or Comparison children (one in sixteen). The ratings of the High Mobility Buffer children differed significantly from both those for High Mobility Target and for High Mobility Comparison children. The difference between the Target and Comparison children comments was not significant.

Low Mobility students' ratings were consistently more favorable than those for the High Mobility group. However, within the Low Mobility sample no statistically significant differences occurred. For all three groups of schools, approximately half the children were rated as favorable (Target 48%; Buffer, 46%; Comparison, 51%). Slightly less than half the comments were rated as neutral for all three Low Mobility groups. Slightly more of the comments rated as unfavorable appeared in the Target and Buffer groups (8%), than in the Comparison group (4%).

Within School Samples

Overall, ratings of teacher comments concerning High Mobility children were much different--fewer favorable and more neutral and unfavorable ratings--than the ratings of comments for Low Mobility children. Favorable ratings were assigned to one-third of the High Mobility children, but to only one-half the Low Mobility children. High Mobility ratings were twice as likely to be unfavorable than were Low Mobility ratings (12% compared to 5%).

Within Target schools and within Buffer schools, significant differences in rating categories were noted between High and Low Mobility students. This was not so for the Comparison school students, for whom the differences in ratings were slight. High Mobility Target and Buffer students received far fewer favorable, and more neutral and unfavorable ratings than did the Low Mobility children. For example, 33% of High Mobility Target students were rated as favorable, while 48% of the Low Mobility group were assigned this favorable rating. Buffer group differences were even more extreme. Only 23% of the comments concerning High Mobility Buffer children were favorable, compared to 46% of the Low Mobility Buffer children.

Absenteeism and Mobility

School absenteeism was investigated as another factor which might show some correspondence with mobility. Results are based on sixth grade absences, when all children in the study were attending Minneapolis Public Schools. To discuss absenteeism at an earlier grade would exclude some of the students who entered the system late in their elementary school careers.

Across School Samples

Target and Buffer students were absent more in sixth grade than were Comparison students. The downtown school children missed approximately 14 days of school during the year, while the children from outlying areas were absent only eight days, on the average. About four times as many downtown children (over 20%) were absent 21 days or more than were Comparison children (less than 5%). (Mean figures shown are estimates since absentee information was coded into rather broad class intervals of unequal width. Because of this, chi square analyses were used rather than analyses of variance). See Table 8.

High Mobility Target and Buffer groups were both absent about 15 days during the year. Comparison High Mobility children missed only 9 days of school. About one in four downtown children in the High Mobility group had missed school 21 or more days during the year, compared to one in eleven High Mobility Comparison children.

Similarities in absenteeism for Target and Buffer children were also noted among Low Mobility children. These groups were absent about 12 days, on the average. The average Comparison Low Mobility child was absent only 8 days during sixth grade. More Low Mobility Target and Buffer youth were absent 21 or more days (15% and 19% respectively) than were Comparison children (4%).

Within School Samples

For all three groups of schools, the High Mobility children were absent more often than Low Mobility children. This difference was highly significant

Table 9

Absenteeism and Mobility

	Number of Days Absent in Sixth Grade			
	Mean	No. of Students	Absent 21 or more days	
			Number	Percent
Target Students				
High Mobility	15.33	192	45	23.4%
Low Mobility	11.12	91	14	15.4
Total	13.98	283	59	20.8
Buffer Students				
High Mobility	15.78	137	38	27.7
Low Mobility	12.62	119	23	19.3
Total	14.31	256	61	23.8
Comparison Students				
High Mobility	9.22	57	5	8.8
Low Mobility	8.06	258	10	3.9
Total	8.27	315	15	4.8
Total				
High Mobility	14.59	386	88	22.8
Low Mobility	9.81	468	47	10.0
Total	11.97	854	135	15.8%

Comparisons between Students Absent Twenty or Fewer Days and Twenty-one or More Days

High vs Low Mobility Students	Chi-Square	p
Target	1.96	n.s.
Buffer	2.04	n.s.
Comparison	1.51	n.s.
Total	24.91	.001

High Mobility Students	Chi-Square	p
Target vs Buffer	0.57	n.s.
Target vs Comparison	5.01	.05
Buffer vs Comparison	6.52	.05
Low Mobility Students		
Target vs Buffer	0.31	n.s.
Target vs Comparison	12.18	.001
Buffer vs Comparison	22.45	.001

for the total High and total Low Mobility groups. High Mobility children were absent about five more days than Low Mobility children on the average. More than twice as many had missed 21 days or more (23% vs. 10%).

Within each of the three groups of schools, the High Mobility children had been absent more days than the Low Mobility children. A somewhat greater percentage of the High than Low Mobility children had been absent 21 days or more. This difference was not statistically significant for any of the school samples although accumulatively the difference was highly significant.

Summary: Educational Characteristics and Mobility

Mental Ability Test Scores

1. Across school samples, regardless of mobility experience, there were consistent mental ability score differences, with inner-city Target children scoring lowest and children from the above average income Comparison areas scoring highest.
2. Mobile children scored much lower on the Otis Test of Mental Ability than children who had remained at one address throughout elementary school.
3. Within the three school samples studied, the highly mobile children scored consistently lower than those who had not moved. These differences were most pronounced for Buffer children; least, for Comparison.

Reading Test Scores

4. Children who moved three or more times had lower scores on the Reading Comprehension section of the Iowa Test of Basic Skills than those who had not moved during elementary school. These differences were noted within each of the three groups of schools studied. Although consistent in direction, the differences were not statistically significant for the Target or Comparison groups.
5. Mobility appears to be inversely related to tested reading comprehension.

Ratings of Teacher Comments

6. Teacher comments concerning children from the outlying areas of the city were more favorable than comments concerning children from the inner city.

7. The comments concerning High Mobility students, in all three groups of schools were rated less favorably than comments concerning students who had not moved. Differences were significant for the two groups of downtown schools, but not for the outlying schools.

8. Among the highly mobile, Buffer children were rated least favorably. Comparison students were rated much more favorably than Buffer children, and somewhat, but not significantly, better than Target children.

9. Low Mobility children in the downtown school areas and the children in outlying schools had about the same proportion of teacher comments rated as favorable, neutral and unfavorable. Comparison school ratings were consistently, but not significantly, more favorable.

Absenteeism

10. The downtown children were absent more days, on the average, and more downtown children were absent a greater number of days than Comparison children.
11. Within the three groups of schools, there were consistent, but non-significant, differences between the mobile and stable students. Accumulatively, the difference was highly significant with mobile children being absent more often.

12. Among High Mobility children, both groups of downtown school children had more children absent 21 or more days than did High Mobility Comparison children. Target and Buffer proportions were about the same.

13. Among Low Mobility children, Target and Buffer groups had greater proportions of students absent 21 or more days than did the Comparison group. Target and Buffer proportions were about the same.

VII. EDUCATIONAL AND SOCIAL FACTORS ASSOCIATED WITH HIGH AND LOW MOBILITY (Cont'd.)

Delinquency and Mobility

No complex definitions of delinquency are involved here. Students' names were checked with the records of the Juvenile Division of the Minneapolis Police Department and with the intake files of Hennepin County Juvenile Court. This data collection was carried out in May 1965, when most of the students in the study were completing the eighth grade. The average age of the children was approximately thirteen and one-half years.

Across School Samples

One-third of the youth in the Target school sample had been contacted by the police or had court records (or both) by the end of eighth grade. A little more than one-fifth of the Buffer students had experiences of this type. Only one Comparison student in fourteen had any record with police or the courts. See Table 10.

Among High Mobility students from Target and Buffer schools, there was only a slight -- non-significant -- difference in delinquency records. Thirty-eight percent of Target and 34% of Buffer students had been contacted. This contrasts sharply with the High Mobility Comparison youth sample. Only 7% of this group had police or court records. The downtown youth who had moved often, therefore, was five times more likely to be on record with the local law enforcement agencies than was the Comparison youth.

A considerable difference also existed among Low Mobility youth. In this instance, the Target children differed greatly from Buffer and Comparison children. Over 27% of the Target Low Mobility children had been contacted in comparison to 8% of the Buffer and 7% of the Comparison children. The low contact rate for Buffer children was unexpected. In the absence of a more obvious explanation it seems likely that this is a chance result reflecting the extremely small base population.

Within School Samples

Overall, there was a great difference between the total High and total Low Mobility groups. Nearly one-third, 32% of the High Mobility children had been contacted, whereas scarcely one-ninth, 11%, of the Low Mobility children had police or court contacts.

This relationship between mobility group and police and court contacts existed in two of the three school groups. The difference was statistically significant only for the Target and Buffer school students. The percentage of Comparison youth contacted was nearly identical for both High and Low Mobility

Table 10

Police, Court Records, and Mobility

	Students with No Police or Court Record		Students with Police or Court Records		Total	
	No.	%	No.	%	No.	%
Target Students						
High Mobility	121	62.4%	73	37.6%	194	100.0%
Low Mobility	66	72.5	25	27.5	91	100.0
Total	187	65.6	98	34.4	285	100.0
Buffer Students						
High Mobility	92	65.7	48	34.3	140	100.0
Low Mobility	110	91.7	10	8.3	120	100.0
Total	202	77.7	58	22.3	260	100.0
Comparison Students						
High Mobility	53	93.0	4	7.0	57	100.0
Low Mobility	239	92.6	19	7.4	258	100.0
Total	292	92.7	23	7.3	315	100.0
Total						
High Mobility	266	68.0	125	32.0	391	100.0
Low Mobility	415	88.5	54	11.5	469	100.0
Total	681	79.2%	179	20.8%	860	100.0%

Comparisons between Police and Court Records, and Mobility

High vs Low Mobility Students	Chi-Square	p
Target	2.75	.10
Buffer	23.64	.001
Comparison	.04	n.s.
Total	54.07	.001

High Mobility Students	Chi-Square	p
Target vs Buffer	0.26	n.s.
Target vs Comparison	17.77	.001
Buffer vs Comparison	14.13	.001
Low Mobility Students		
Target vs Buffer	12.35	.001
Target vs Comparison	22.90	.001
Buffer vs Comparison	.01	n.s.
Total		
Target vs Buffer vs Comparison	139.77	.001

groups, 7.0% and 7.4%, respectively. Thus, mobility seems to be related to police and court contacts for the children of the downtown schools, but had no relationship for Comparison children.

VIII. SUMMARY AND DISCUSSION

The basic focus of this study was on certain factors related to high and low geographic mobility. Comparisons have been made of high and low mobility students across schools in divergent economic areas. Sixth grade children from low income families in downtown Minneapolis were compared with children from families of better than average incomes living in the outlying areas of the city.

Since all Target and Buffer Schools in this study lay within the poverty areas designated by the county's Community Action Agency (for the war on poverty) and since they were all located near the city center it seemed reasonable to combine these two samples in order to simplify the discussion.

Comparisons of Inner City and Comparison Students without Regard to Mobility

Let us first compare the two samples--Inner City and Comparison--without regard to mobility. Differences between these two samples of students were truly large. Family income (1960) of Inner City families averaged $4,800 while Comparison families averaged over $7,000. There were more children in the homes of Inner City youth and fewer adults to care for them. Thirty-one percent of these youth did not live with both natural parents while nine per cent of Comparison youth lived in homes broken by death, divorce, separation or desertion. None of the 315 children in the Comparison sample were non-white. More than one out of four Inner City youth were non-white. At the time these data were collected approximately 7% of all public elementary school children in Minneapolis were non-white.

Turning to indices of school achievement it was found that Inner City Youth scored more than eight points below their Comparison counterparts on a test of mental ability. Similar results were found for a test of reading achievement; children in the downtown sample scored almost one full grade below the Comparison children.

Ratings of teachers' comments about the children were more favorable for Comparison children. Fully half of the Comparison children received favorable

ratings while only one in three Inner City children were rated thus. It should be noted that the rater was not aware of the reasons for which ratings were being made, nor was she aware of the sampling procedure for selecting the schools. It should also be noted that an "unfavorable" rating was not necessarily a derogatory view of the child as a person, but may have simply reflected the view that the child had problems and needed help.

Children from downtown schools were much more likely to be absent from school frequently. One out of five downtown children was absent 21 or more days during sixth grade. The comparable figure was one out of twenty for students from higher income sections of the city.

Finally, there were large differences in delinquency rates -- as measured by police and court records. This was to be expected since the samples were selected, in part, because of the divergence in delinquency rates in the geographic areas surrounding the schools. The data confirm that the divergence existed not only in the surrounding areas, but for the particular children in the selected samples.

A summary of these findings is shown in Table 11. This information differs from that shown in Section III, since only High and Low Mobility children are included here. Also, Target and Buffer samples are combined. All figures shown are derived from study data except family income which is an area estimate from census data.

When using Minneapolis test norms as a point of reference, the Inner City youth appear in an unfavorable light. Their reading test scores are at the thirty-seventh percentile, and mental ability scores are at the thirty-first percentile. In making these comparisons to norm groups, it must be recognized that such standardized tests may have a built in bias against youth such as the Inner City sample. From a different vantage point, that of national norms, Inner City youth appear more favorably. Their reading comprehension test scores fall at the forty-fourth percentile, and mental ability scores are nearly average -- the forty-ninth percentile. The concept of "relative deprivation" appears to be in operation.

Table 11

Summary of Findings for a Sample of Inner City Elementary School Students (Target and Buffer Schools) and Comparison Students From Outlying Schools

	Inner City Students	Comparison Students	p
Family income (1960)	$ 4,821	$ 7,000	--
No. of children in the family (mean)	4.24	3.14	.001
Living with both parents	69%	91%	.01
Non-white	28%	0%	.001
Otis Test of Mental Ability - Beta (mean)	99.5	108.1	.001
Iowa Reading Comprehension (mean grade)	5.91	6.82	.001
Favorable ratings of teachers' comments	36%	50%	.01
Absent 21 or more days (6th grade)	22%	5%	.01
Police or court record near end of 8th grade	29%	12%	.01
No. of students (minimum)	476	294	--

Comments by teachers are "unfavorable" for only a small proportion of Inner City youth -- about one in ten. Finally, the large majority -- over seven in ten -- have not had police or court records by the end of eighth grade.

Much research has shown the wide division which separates the children of poverty from the children of affluence. In most instances average or mean figures are reported for the two groups. This reporting procedure tends to summarize, or make explicit, the differences while concealing the similarities. Measures of overlap are rarely reported. In the present study, for example, there was a large difference between average Otis test scores for Inner City and Comparison youth. A mean difference of 8.6 points was observed. Truly the groups did differ on this test. At the same time the overlap was approximately 74%. That is, 74% of the Comparison children could be matched, score for score, by Inner City youth (Tilton, 1937). A similar result was found for reading test scores -- with 72% overlap.

The fact that large mean differences exist in spite of extensive overlap suggests that a relatively small, widely deviant, sub-group might account for much of the unfavorable criticism leveled against all Inner City youth. A sub-group with which the present study was concerned was labeled High Mobility.

Comparisons of High and Low Mobility Students Without Regard to Background Factors

When students who had moved three or more times were compared with students who had not moved at all -- over a period of seven years -- very substantial differences were revealed. Table 12 compares all High Mobility students (Inner City and Comparison) with all Low Mobility students. High Mobility students came from families with larger numbers of children but fewer adults (unless an extended family replaced the missing parent). Three out of ten High Mobility students were non-white. The High Mobility groups fared poorly on standardized tests of mental ability and reading compared to the Low Mobility group. Excessive absenteeism from school was more prevalent for the mobile pupils and delinquency was three times greater than delinquency

Table 12

Summary of Findings for Total High and Low Mobility Samples Without Regard to Background Factors

	High Mobility Students	Low Mobility Students	p
Inner City students	44%	30%	--
Comparison students	13%	61%	--
No. of schools attended (mean)	4.3	1.0	--
No. of children in the family (mean)	4.37	3.41	.001
Living with both parents	77%	90.0%	.001
Non-white	30%	8%	.001
Otis Test of Mental Ability-Beta (mean)	97.9	106.2	.001
Iowa Reading Comprehension (mean grade)	5.92	6.52	.001
Favorable ratings of teachers' comments	32%	49%	.001
Absent 21 or more days (6th grade)	23%	10%	.001
Police or court record by end of 8th grade	32.0%	11.5%	.001
No. of Students (minimum)	333	442	

of Low Mobility children. Teachers' comments were rated as favorable less often for the mobile children.

Table 12 also shows that 74% of Inner City youth and 74% of Comparison youth were categorized into High or Low Mobility samples. (Twenty-six percent were not considered as High or Low Mobility and were excluded from the present analysis). However, the way in which the 74% was divided was quite different for the two groups. Forty-four percent of Inner City youth were classified as High Mobility while 30% fell into the Low Mobility category. By contrast, only 13% of Comparison youth were High Mobility, but 61% were labeled Low Mobility.

This skewing, and the unequal sample sizes, resulted in a High Mobility sample heavily weighted by Inner City youth and a Low Mobility sample about equally divided between Inner City and Comparison youth.

The differences found between High and Low Mobility children are quite consistent with findings of other investigators. (See Section IV, SELECTED REFERENCES ON STUDENT MOBILITY.)

Studies in Boston, New Haven, and Cincinnati all revealed greater movement by Inner City families (Aronoff et al., 1965; Bollenbacher, 1962; Levine, et al., 1964). On a national scale, U. S. Census figures showed much greater movement by low income males (U.S. Census, 1965). Greater movement by non-white persons also appears to be the general rule, although Sullenger's (1950) study points out one exception.

Present findings relating school characteristics and mobility support a number of previous studies. Lower test scores for the more transient students have been reported for the Kuhlmann-Anderson and for the Lorge-Thorndike (Bollenbacher, 1962). Poor grades and generally less favorable ratings of teachers' comments are supportive findings (Levine, et al., 1964; Bevis & Faunce, 1964).

The basic question regarding studies of geographic movement is one of cause or effect. Does moving cause differences in people or do people move because they are different? In a relational study such as this the

imputation of causation is on shaky grounds. However, some information may be gained by comparing mobile and non-mobile groups within homogeneous economic areas. This approach allows many factors related to income to be ruled out.[1] For example, number and dispersion of police, teachers and recreational facilities are all similar within each of the areas sampled.

Table 13 summarizes the results for High and Low Mobility students within two relatively homogenous economic areas, Inner City, or low income, and Comparison or high(er) income. The probability columns relate to the significance of difference between the High and Low Mobility samples.

Perhaps the most obvious fact shown by the table is the consistently more favorable position of the Low Mobility students on all factors where a rational decision of what is favorable can be made. In no case does the High Mobility group appear more favorable in either the high or low income samples.

Although these results are consistent, it is also apparent that they are much less marked in the Comparison sample. Only the difference in family status appears substantial and there is no difference at all in delinquency. Inner City youth, by contrast show statistical and practical differences on all variables, including delinquency.

These results suggest the hypothesis that extensive mobility, when defined globally, has less effect on children among families with above average incomes than it does on the poor. And since broken homes are apparently a major reason for high mobility -- in both samples -- one might suspect that the factors leading to the breakup of the family would also contribute to many of the other differences between mobile and non-mobile children.

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[1] This is not strictly true for this study since individual income figures were not obtained. Even within an homogenous area there is income variation which could result in biased samples.

Table 13

Summary of Findings for High and Low Mobility Samples With Background Factors Equated

	Inner City Students			Comparison Students		
	High Mobility	Low Mobility	p	High Mobility	Low Mobility	p
No. of children in the family (mean)	4.6	3.9	.001	3.3	3.1	n.s.
Normal family status	58%	76%	.001	79%	94%	.001
Non-white	35%	19%	.01	0%	0%	n.s.
Otis Test of Mental Ability (mean)	97	104	.01	106	109	.10
Iowa Reading Comprehension (mean grade)	5.8	6.1	.01	6.7	6.9	n.s.
Favorable ratings of teachers' comments	30%	47%	.01	45%	51%	n.s.
Absent 21 or more days (6th grade)	25%	18%	.05	9%	4%	n.s.
Police or court records by end of 8th grade	36%	22%	.01	7%	7%	n.s.
No. of students (minimum)	284	194	--	49	238	--

Bollenbacher's (1962) covariance approach suggested that reading achievement and arithmetic were not affected by the number of schools attended. She concluded that the pupils who moved most frequently were also the least capable as measured by the Lorge-Thorndike test of intelligence and, therefore, did less well on the reading and arithmetic instruments. This approach begs the question since the test on which the children were equated, the Lorge-Thorndike, was apparently assumed to be beyond the influence of mobility or other background factors itself. If the children's mental ability scores had originally been deflated by mobility or related factors then equating them on a spurious measure could scarcely lead to a wholely satisfactory conclusion about the effects of mobility. In spite of this criticism, Bollenbacher's approach is one of the more adequate attempts at isolating the effects of mobility.

The problem of "culture fair" testing has gained prominence with the advent of the war on poverty. Do standardized tests treat disadvantaged youth fairly? Table 13 shows that, ostensibly, low income youth in the Low Mobility sample scored average or better on the two standardized tests when compared to national norms. Compared to higher income youth they did less well, although the overlap was great. High Mobility Inner City students, were below average by all standards. This suggests that low income or place of residence, per se, are not sufficient criteria for designating a youth as "culturally deprived" or even "educationally disadvantaged." Significantly, only 58% of the High Mobility Inner City students were living with both parents. Again, one is led to predisposing factors within the family which lead to break-up and probably mobility.

A profile picture of the Low Mobility Inner City student may be worthwhile. He has average intelligence and his reading ability is also normal for his grade. He is less inclined to be absent, delinquent, or non-white than the highly mobile youngster living in his neighborhood. On the other hand, there is four times as much chance that he will be excessively absent than the child with a stable residence in a high income neighborhood. He is three times as likely to be delinquent.

The chances that he will come from a "normal" home are about the same as those for the highly mobile youngster living in the wealthier part of the city. They

are much better than for the mobile youngster in his own neighborhood; much worse than the non-mobile "rich kid."

In spite of his predilections to absenteeism and delinquency he is generally viewed with favor by his teacher -- perhaps because by contrast to his unfortunate, mobile neighbor he is "less delinquent," absent less, and achieving better.

Although this profile picture is rather loosely worded in order to convey an idea, it cannot be denied that a substantial proportion of our so called disadvantaged youth are operating within a middle class society in a very effective manner, considering the odds against them.*

This study also appears to support -- although it is important to note that it did not test -- the belief that children living in stable, unbroken homes will be relatively successful, law abiding students regardless of the family's economic condition or place of residence.

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* The term "effective" as used here is defined by middle class standards. Some authors have suggested that being "effective" in certain sub-cultures may not be representative of healthy or even "normal" personalities (Miller, 1958).

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